What is claimed is:

1. A material consisting essentially of:
silica; and
nucleic acids covalently bonded to the silica.
2. The material of claim 1, wherein the nucleic acids are DNA.
3. The material of claim 1, wherein the material is a flat surface.
4. The material of claim 1, wherein the material is a bead.
5. The material of claim 1, wherein the material is an array of fibers.
6. The material of claim 1, wherein the silica is at least about 80% pure silicon dioxide.
7. The material of claim 1, wherein the silica is at least about 90% pure silicon dioxide.
8. The material of claim 1, wherein the silica is at least about 95% pure silicon dioxide.
9. The material of claim 1, wherein the silica is pure silicon dioxide.
10. A material consisting of:
silica; and
nucleic acids covalently bonded to the silica.
11. The material of claim 10, wherein the nucleic acids are DNA.
12. The material of claim 10, wherein the material is a flat surface.
13. The material of claim 10, wherein the material is a bead.
14. The material of claim 10, wherein the material is an array of fibers.
15. The material of claim 10, wherein the silica is at least about 80% pure silicon dioxide.
16. The material of claim 10, wherein the silica is at least about 90% pure silicon dioxide.
17. The material of claim 10, wherein the silica is at least about 95% pure silicon dioxide.
18. The material of claim 10, wherein the silica is pure silicon dioxide.
19. ~~A method for binding nucleic acids to a surface, the method~~ comprising:

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providing a mixture comprising nucleic acids and a charged material; and

contacting the mixture and a surface to produce a bound material, wherein the bound material comprises nucleic acids covalently bonded to the surface.

20. The method of claim 19, wherein the charged material is a cationic material or a partially cationic material.

21. The method of claim 19, wherein the charged material is a xanthine, a hexose, a purine, arginine, lysine, polyarginine, polylysine, or a quaternary ammonium salt.

22. The method of claim 21, wherein the xanthine is xanthine, 1,3,7-trimethylxanthine (caffeine), 1,3,9-trimethylxanthine, 1,3-diethyl-7-methylxanthine, 1,3-diethyl-8-phenylxanthine, 1,3-dimethyl-7-(2-hydroxyethyl)xanthine, 1,3-dimethylxanthine-7-acetic acid, 1,3-dipropyl-7-methylxanthine, 1,3-dipropyl-8-*p*-sulfophenylxanthine, 1,7-dimethylxanthine, 1,7-dimethylxanthine (paraxanthine), 1,9-dimethylxanthine, 1-allyl-3,7-dimethyl-8-phenylxanthine, 1-allyl-3,7-dimethyl-8-*p*-sulfophenylxanthine, 1-butyl-4,5-dihydro-3-ethyl-8-hydroxyxanthine, 1-ethyl-3-isobutylxanthine, 1-methylxanthine, 2,6-dithiopurine, 2'-deoxyinosine, 3,7-dimethyl-1-propargylxanthine, 3,7-dimethylxanthine, 3,8-dimethyl-2-thioxanthine, 3,9-dimethylxanthine, 3-allyl-1-ethyl-8-hydroxyxanthine, 3-cyclopropyl-1-ethyl-8-hydroxyxanthine, 3-ethyl-1-propylxanthine, 3-ethyl-8-hydroxy-1-methylxanthine, 3-isobutyl-1-methylxanthine, 3-isobutyl-1-methylxanthine, 3-isobutyl-1-methylxanthine, 3-isobutyl-1-methylxanthine, 3-methyl-1-(5-oxohexyl)-7-propylxanthine, 3-methyl-8-phenyl-2-thiohypoxanthine, 3-methylxanthine, 3-propylxanthine, 6-thiohypoxanthine, 6-thioxanthine, 7-methylxanthine, 8-(3-carboxypropyl)-1,3-dimethylxanthine, 8-azaxanthine monohydrate, 8-bromo-1,3-diethylxanthine, 8-cyclopentyl-1,3-dimethylxanthine, 8-cyclopentyl-1,3-dipropylxanthine, 8-methoxymethyl-3-isobutyl-1-methylxanthine, 8-methylxanthine, 9-methylxanthine, azaserine-hypoxanthine, hypoxanthine, hypoxanthine 9-beta-d-arabinofuranoside, hypoxanthine 9-d-ribofuranoside (inosine), nicotinamide hypoxanthine dinucleotide phosphate, nicotinamide hypoxanthine dinucleotide phosphate disodium salt, nicotinamide hypoxanthine dinucleotide sodium salt, selenohypoxanthine, or xanthosine.

23. The method of claim 21, wherein the hexose is alose, altrose, fructose, galactose, glucose, mannose, sorbose, tagatose, or talose.

24. The method of claim 21, wherein the purine is purine, 6-purinecarbonitrile, 6-purinethiol, or 6-purinethiol riboside.

25. The method of claim 21, wherein the quaternary ammonium salt is benzyltriethyl ammonium chloride (BTEAC), benzyltrimethyl ammonium chloride (BTMAC), benzyltributyl ammonium chloride (BTBAC), tetrabutyl ammonium bromide (TBAB), tetramethyl ammonium chloride (TMAC), tetrabutyl ammonium hydrogensulfate (TBAHS), trioctylmethyl ammonium chloride (TOMAC), N-lauryl pyridinium chloride (PYLC), or N-alkyl- (pyridinium / picolinium) chloride.

26. The method of claim 19, wherein the surface consists essentially of silica.

27. The method of claim 19, wherein the surface consists of silica.

28. The method of claim 19, further comprising removing the charged material after the contacting step.